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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,775	09/10/2003	Shaoming Liu	117122	3902

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EXAMINER	
SAINT CYR, LEONARD	
ART UNIT	PAPER NUMBER
2626	
MAIL DATE	DELIVERY MODE
06/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,775	LIU, SHAOMING	
	Examiner	Art Unit	
	LEONARD SAINT CYR	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3, 5 - 8, 10, 12 - 15, 17, 19 - 22, 24, and 26 - 28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, 5 - 8, 10, 12 - 15, 17, 19 - 22, 24, and 26 - 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/29/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 03/04/09 have been fully considered but they are not persuasive.

Applicant argues that the amended claims overcome the 101 rejection, as now recited a step of outputting the distance as an indicator of semantic similarity of the two sentences (Amendment, page 13).

The examiner disagrees, since the added step of outputting the calculated distance between the first text sentence and the second text sentence is also considered as mathematical algorithm step, that can be done manually using a piece of paper.

Applicant argues that amended claims 1, and 8 are now recited "computer-implemented" methods, and thus not mental process. Thus, the rejected method claims are now tied to a particular statutory category (apparatus) by reciting of a process performed by a computer (Amendment, page 13).

The examiner disagrees, since "computer- implemented method" as recited in the preamble does not transform the claimed subject matter into statutory subject matter. The recital is merely a field of use or desired end use limitation.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims **1, 3, 5 - 8, 10, and 12 - 14** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As per the most recent interpretation of the Interim Guidelines regarding 35 U.S.C. 101, claims **1, 3, 5 - 8, 10, and 12 - 14** define non-statutory processes because they merely manipulate an abstract idea (the mathematical manipulation of data) without a claimed limitation to produce a useful, concrete, tangible result. If the acts of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter (Benson, 409 U.S. at 71-72, 175, USPQ at 676). Furthermore, claims define nonstatutory processes if they simply manipulate abstract ideas (Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759). As for guidance to areas of statutory subject matter, see 35 U.S.C. 101 Interim Guidelines (with emphasis of the Clarification of Interim Guidelines For Examination of Patent Applications for Subject Matter Eligibility); as an example, in Alappat, the claimed output smooth waveform (consisted of lighting pixels on an oscilloscope/display) is a useful, concrete, tangible, final result; in Arrhythmia, the claimed useful, concrete, tangible, final result represented the condition of a patient's heart; in State Street, the claimed useful, concrete, tangible, final result was data output that represented a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent.

Claims **1, 3, 5 - 8, 10, and 12 – 14** reviewed in light of the specification, simply recite a mathematical algorithm for text comparison.

As can be seen by claims **1, 3, 5 - 8, 10, and 12 – 14;** these claims recite a mathematical algorithm by setting forth the step of "calculating a distance between the first text sentence and the second text sentence on the basis of the following expression: the distance = (the calculated distance between the first R tree and the second R tree) / (a sum of vertexes in the first R tree and the second R tree); the word information and the case information are assigned to vertexes of the tree so that at least on vertex includes both the word information and the case information; etc." These steps are mathematical in nature.

Reviewing the claims, we have a field of use limitation at claims **1, 3, 5 - 8, 10, and 12 – 14** preamble. This limitation does not in any way further limit the algorithm because:

As per claims, the language " A text sentence comparison method" does not transform the claimed subject matter into statutory subject matter. The recital is merely a field of use or desired end use limitation.

A mathematical algorithm is not made statutory by " attempting to limit the use of the formula to a particular technological environment. "Diehr, 450 US. at 191, 209 USPQ at 10. Thus "field of use" or "end of use" limitations in the claim preamble are insufficient to constitute a statutory process.

The above review of the claims shows that the subject matter claimed in addition to the mathematical algorithm is not sufficient on its own to render the claims as a whole statutory.

It is readily apparent that when claims **1, 3, 5 - 8, 10, and 12 – 14** are each taken as a whole, the claims are directed to the preemption of a mathematical algorithm, and thus are non-statutory.

Claims **1, 3, 5 - 8, 10, and 12 - 14**, are rejected under 35 USC 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps to be performed, a statutory process under 35 USC 101 must be tied to another statutory category (such as a manufacture or a machine) or transform underlying subject matter (such as an article or material) to a different state or thing. The steps in those claims can be performed manually without the use of a particular machine. Those claims could be done in a piece of paper, by calculating all the distances between the first and second R trees, representing the first text sentence and the second text sentence, respectively. Thus, claims **1, 3, 5 - 8, 10, and 12 – 14** do not define a statutory process.

Claims 15, 17, 19 - 22, 24, 26 - 28 are rejected under 35 USC 101 as not falling within one of the four statutory categories of invention. Although **claims** 15, 17, 19 - 22, 24, 26 - 28 appear to fall within a statutory category *(i.e., apparatus)*, **claims** 15, 17, 19 - 22, 24, 26 - 28 encompass nothing more than logic/software modules as recited in the preamble “the program comprising”. Thus, claims 15, 17, 19 - 22, 24, 26 – 28 are directed to non-statutory subject matter because their scope includes a computer program embodiment, an abstract data structure which does not fall within one of the

four statutory categories *(i.e., it is directed to a program per se)*. See also MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Objections

3. Claims 21, and 28 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s)

in proper dependent form, or rewrite the claim(s) in independent form. Claims 21, and 28 do not further limit independent claims 15, and 22, respectively; since the independent claims 15, and 22 recite “an output section for outputting the calculated distance between the first text sentence and the second text sentence".

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS
06/01/09

/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626